

# Health of Home and School.

LEAFLET NO. 20.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

## The Surest Way to Spread Infection.

While we have for ages been impressed with the danger of the spread of disease through the air and by means of clothing, bedding, and rooms which have presumably been surcharged with infection, we have of late been emphasizing strongly another way in which the infection of certain diseases is spread with the utmost certainty—by direct infection, "contact infection," it is often called. For example, we may go into the room where there is a case of typhoid fever or of diphtheria, and by observing proper precautions there will be but little danger of taking the disease or of carrying it to others; but in attending to the wants of the patient our hands become contaminated by contact with him or his clothing or bedding or other things which have been soiled by him—then, if without washing or disinfecting our hands very thoroughly we put our fingers to our lips or nose or handle food which is going to our mouths, there is serious danger of taking the disease. If we infect our hands by actual contact with infectious persons or things, or if we carelessly sit upon the infected bed of the sick person, the hands or clothing will be much more likely to carry infection than they would with the much slighter chance of having infection carried to them by the air.

## Contact Infection.

What has already been said explains what is meant by contact infection. It only remains to emphasize the large part it has in spreading infectious diseases. In some hospitals, particularly in some of those in Paris, they have been caring for cases of typhoid fever, scarlet fever, diphtheria, measles and even smallpox, all right in the same room together. They have even been taking care of persons with diphtheria, scarlet fever, or other infectious diseases in the rooms of the general hospitals where persons are sick with troubles other than the infectious diseases. And this has been done with a remarkably few transmissions of infections to other patients. These infectious persons have been separated from the other patients by light partitions extending upward only a few feet from the floor or by screens or by partitions of wire netting letting the air circulate freely through, or by only a tape extending around the few feet of floor space belonging to each infectious person—these enclosures only to remind the nurse constantly that she is dealing with infection and that she must always be exact in her obedience to certain rules. And what are those rules? Simply that she shall be scrupulously careful all the time to avoid the infection of her clothing by contact with infected things and that, before leaving the enclosed space, her hands must be washed and disinfected with solutions which are known to be trustworthy. Though we may not be ready to follow the French doctors in their methods, the results in those hospitals and in a few others outside of France have certainly shown how much may be accomplished in preventing the spread of infection by strict precautions against contact infection.

## The Mouth, An Open Portal.

Infection may be received into the system by breathing it in or by having it inoculated through the skin by cuts, punctures, or the bites of insects; but the mouth is the principal port of entry for those undesirable immigrants, the disease germs of many of our infectious diseases. We can mention only a few of those infections.

## **Typhoid Fever.**

The large outbreaks of typhoid fever are almost always due to infected water and infected milk, but following the primary cases in the outbreaks there is great danger of other cases in the same families coming down as the result of contact infection. One boy in a family of eleven came down sick with typhoid fever. Eight others in this family took the disease from him. In another family one of the boys brought home typhoid fever. The mother, a very untidy woman, with unwashed hands, went from her care of the sick boy to her preparation of the meals for the family. The other two boys came down with a very malignant form of the disease, due undoubtedly to the massive doses of infection the unwashed hands of the mother had conveyed. Nurses even in hospitals where they are supposed to be well trained and thoughtful sometimes take typhoid fever from their patients because they do not keep their fingers away from their mouths.

## **Tuberculosis.**

A young man in Maine died with tuberculosis. The cornet which he had played came into the possession of another young man. He died of tuberculosis. A third young man then had the instrument. He also caught the disease from the cornet and died. A teacher in a high school, an estimable lady who had tuberculosis, was in the habit of greeting her young lady pupils with a kiss. Four of these young ladies in four different families died with tuberculosis within a few years. Many other histories show with what certainty tuberculosis can be carried by things which pass from lip to lip, or are used in common by tuberculous patients and other persons—spoons, forks, common drinking cups, pipes, pencils, etc.

## **Scarlet Fever.**

Scarlet fever may be carried in the air short distances indoors but there is a greater degree of certainty of its transmission by coming in contact with the sick person—by infecting the fingers, transferring the infection to the mouth or nose, etc. Letters written in the scarlet fever sick-room have been known to carry the disease to the children in families to which such letters were sent many miles away. It is likely that such letters received their infection from the infected hands which wrote them rather than from infected air. The scales which fall from the skin of persons during the process of peeling (desquamation) are likely to have due consideration, but the public underestimates the infectious character of the secretions from the throat, mouth and nose or the discharge from the ear which may be a sequel of the attack of scarlet fever. These are sources of the infection which may spread the disease by direct or indirect contact infection.

## **Diphtheria.**

In this disease there is great danger of the transmission of infection direct from the sick to other persons or by indirect contact infection when spoons, handkerchiefs or other things from the sick-room are not properly sterilized before other persons use them. In numerous instances the heroic devotion of physicians to their sense of duty has caused their death from diphtheria after applying their lips to the tracheotomy tube which has become obstructed by the infectious membranes from the windpipe and must be removed instantly to save the life of the sick child. Infection thus received is in massive doses, and the malignancy of infectious diseases seems to depend largely upon the size of the dose of infection received.

*The final word* is that the infection of many diseases is spread with the utmost degree of certainty by persons and things which have been in actual contact with the sick persons. It cannot be emphasized too strongly that such persons and things, before they leave or are carried from the sick-room, and before they are used by other persons or come in touch with them, should be sterilized (disinfected) in no uncertain way. And beware of infected fingers.

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LEAFLET NO. 21.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

## Accidents and Emergencies of Childhood.

The purpose of this leaflet is to teach what to do when some accidents and emergencies occur among children. By knowing how to do the right thing promptly, much suffering may be prevented and sometimes life may be saved.

### Things accidentally swallowed.

If still in the throat, or you are not sure where it is, quickly explore with the finger and remove any foreign body found there. Articles accidentally swallowed, if they have passed through the gullet, are small enough to go the rest of the way without trouble. If the swallowed article has sharp points or a cutting edge, cathartics should not be given, as the loaded condition of the bowels affords protection to the intestinal walls by coating the article. Sometimes it is advisable to give bulky articles of food like potatoes or other vegetables which leave considerable waste matter in the intestinal canal. If there are no witnesses to the act of swallowing, search in the cradle and elsewhere for the missing things.

### Foreign bodies in the windpipe.

If articles have been drawn down into the windpipe, violent coughing suddenly occurs. The foreign body may be expelled by the coughing or fatal suffocation may occur. The doctor should be summoned quickly. In some of these cases, life can be saved only by prompt operation.

Meanwhile a slap on the back between the shoulders with the open hand sometimes aids in the expulsion of the object. If that does not suffice, suddenly reverse the child holding him by the feet suspended while he receives a slap between the shoulders. But if not successful, do not persist. The doctor is what is needed. Occasionally small articles settle down into one of the smaller of the bronchial tubes and considerable irritation or even a local abscess or long lasting illness may result.

### Foreign bodies in the nose.

If foreign bodies in the nose cannot be removed by blowing the nose, the expedient of putting a pinch of snuff into the unobstructed nostril, that sneezing may be excited, may be tried. It is inexpedient to resort to unskilful manipulations. The result is usually the pushing of the article farther up into the nose. Better leave it for the doctor to remove. Dried peas or beans which children sometimes push into their noses should be removed as soon as they can be, else their swelling may cause a serious condition and make the removal much more difficult.

### Foreign bodies in the ear.

It is more difficult to remove foreign bodies from the ear. If not removed, they may excite an inflammation that may extend to the base of the brain, and unskilled attempts at removal are still more dangerous for the reason that the foreign body is pushed down against the drum of the ear and may even rupture the drum membrane which is only three-fourths of an inch from the surface. If the doctor is not available, the safest way to try to remove the object is by syringing with blood-warm water.

Insects may be drowned or floated from the ear by filling the passage of the ear with warmed olive oil or water.

## Foreign bodies in the eye.

Most of the small substances which find their way into the eye may easily be removed. Occasionally a metallic particle or cinder is driven into the membrane which covers the globe of the eye so that it adheres somewhat tenaciously. The child should be restrained from rubbing the eye. Sometimes the particle can be removed by catching the upper lid by the lashes and pulling it away from the eyeball and down over the lower lid, then letting it go so that as it recedes, the under surface of the upper lid is swept by the lashes of the lower lid.

If this does not suffice, the upper lid should be turned upward and backward, that is, inside out, so that it may be seen whether the particle adheres to the under surface of the lid or is attached to the globe of the eye. The upper lid may be everted by seizing the lashes between the thumb and first finger and drawing the edge of the lid away from the eyeball while at the same moment a slender pencil or knitting needle or something of the kind may be placed against the eyelid parallel to the edge of the lid, a third or half an inch above the edge, and then pulling the edge of the lid upward and turning it over by means of the lashes. With a little experience in doing this, it can easily be done, thus exposing a large part of the eyeball and the inner surface of the lid. Any foreign particle found may be removed by brushing it off with the corner of a handkerchief or with the eye-end of the a long darning needle.

Particles of quicklime, or lime during the process of slaking, thrown or spattered into the eye, forms a serious emergency. The quicklime rapidly burns the surface of the globe of the eye and its covering lids resulting in very serious injury unless very quickly removed or neutralized. The eye should be quickly flooded with water and still better neutralized with a few drops of vinegar added to the water. This should be followed by instilling a few drops of olive oil into the eye at short intervals.

## Falls.

The great elasticity of the bones of the infant often saves it from serious injuries which would result to older persons. If, in falling, the child strikes upon its head, or if he receives a blow upon the head, it must not too speedily be concluded that no injury has resulted, for serious symptoms may result and they may not develop until some time afterwards. It is better in cases of injuries to the head, to keep the child as quiet as possible for several days thereafter.

## Convulsions.

Until the doctor comes, keep the child very quiet and apply ice to the head or sponge the head with cold water. Then roll the body in towels that have been wrung from warm mustard water. Apply the same to the feet and legs. But be careful to keep the mustard from the baby's eyes and remember that the baby's skin is very tender and that particles of mustard floating in the water may easily blister the skin. So, for each quart of water to be used, put one heaping tablespoonful of mustard into a little square of muslin or a thin clean rag, tie it up, and pour the water upon it. Then stir the bag around in the water.

Have ready an abundant supply of hot water and a bath tub so the doctor may give a hot bath if he deems it best to do so. In the excitement, there is danger of having the bath too hot. Its temperature should not be more than 105° F., and if a thermometer is not at hand, the water should be tested by plunging the arm to the elbow into it and letting it remain until assured that the water is not uncomfortably warm. In ten minutes remove the child from the bath, and without drying, wrap quickly in a warm blanket.

In applying the mustard water or the hot bath, be careful not to chill the skin in the least or for a moment.

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Have you a full set of these leaflets in your home? If not, get them and keep them.